

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

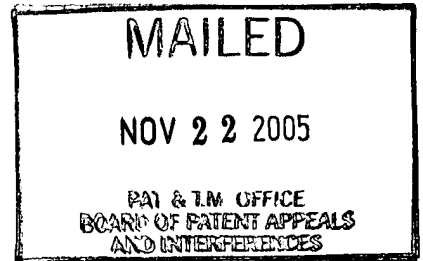
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BRIAN A. LEETE

Appeal No. 2005-2753
Application No. 09/730,238

ON BRIEF



Before KRASS, JERRY SMITH, and BARRETT, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 23 and 26 through 48. Claims 24 and 25 have been canceled.

The invention pertains to a power supply with a bus hub, illustrated by representative independent claim 1, reproduced as follows:

1. An apparatus, comprising:

a housing;

a power supply enclosed in the housing;

a bus hub enclosed in the housing, the power being coupled to the bus hub to supply power to the bus; and

a downstream receptacle in the housing connected to both the power supply and the bus hub, the downstream receptacle being coupled to a cable to couple power from the power supply and data signals from the bus hub to the cable and to receive power and data signals from the cable.

The examiner relies on the following references:

| | | |
|-----------------------------|--------------|------------------------|
| Decuir | 5,781,028 | Jul. 14, 1998 |
| Flannery | 5,799,196 | Aug. 25, 1998 |
| Kang | 6,253,329 | Jun. 26, 2001 |
| | | (filed Jan. 19, 1999) |
| Urade et al (Urade) | 6,272,644 B1 | Aug. 7, 2001 |
| | | (filed Jan. 6, 1999) |
| Tsai | 6,283,789 B1 | Sep. 4, 2001 |
| | | (filed Mar. 16, 2000) |
| Silverman et al (Silverman) | 6,370,603 B1 | Apr. 9, 2002 |
| | | (filed Oct. 5, 1998) |
| Sanchez | 6,446,867 B1 | Sep. 10, 2002 |
| | | (filed Dec. 24, 1999) |
| Herwig | 6,701,192 B1 | Mar. 2, 2004 |
| | | (filed Sept. 13, 2000) |

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Claims 1-23 and 26-48 stand rejected under 35 U.S.C. § 103.

As evidence of obvious, the examiner offers the following:

Claims 1-4, 7, 11, 12, 16, 17, 19, 28-32, 39, and 41-43 stand rejected under Herwig and Flannery, with the USB specification added to this combination to reject claims 5, 20, 33, and 44. The examiner relies on Herwig, Flannery and Urade for the rejection of claims 6, 18, 34-36, and 45-47. Herwig, Flannery, Kang, and Tsai are relied on for the rejection of claims 8 and 38, with the addition of Decuir to this combination for the rejection of claim 9, but with the addition of Sanchez to the Herwig/Flannery/Kang/Tsai combination for the rejection of claim 10. Herwig, Flannery and Tsai are relied on for the rejection of claims 13 and 40. The examiner then adds Decuir to this combination for the rejection of claim 14, but adds Sanchez to this combination with regard to claim 15. Herwig and Tsai are relied on for the rejection of claims 21-23. The rejection of claim 26 is based on Herwig, Tsai, and Decuir, while the rejection of claim 27 is based on Herwig, Tsai and Sanchez. The examiner relies on Herwig, Flannery, Urade and Silverman for the rejection of claims 37 and 48.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

OPINION

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teachings, suggestions or implications in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d

1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1040, 228 USPQ 685, 687 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 146-147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR § 41.67(c)(1)(vii)].

With regard to the rejection of claims 1-4, 7, 11, 12, 16, 17, 19, 28-32, 39, and 41-43, taking independent claim 1 as exemplary, the examiner refers to Figure 3 of Herwig. The examiner points out elements in Figure 3 of Herwig which correspond to the instant claimed elements: element 110 is the claimed housing; element 112 is the claimed power supply; element 114 is the claimed bus hub; the element at the top of the figure into which cable 94 and lines 106, 136, and 138 are directed is the claimed downstream receptacle.

The examiner recognized that what Herwig's Figure 3 is lacking is a teaching of the power supply being coupled to the bus hub to supply power to the bus hub. The examiner then turned to Flannery for a teaching of an apparatus for providing power management using a self-powered USB device (Abstract; Figure 1A), wherein the apparatus comprises a power logic 114 and a power supply 108 being coupled to a bus hub logic 106 to supply power to the bus hub (referring to column 5, line 65 through column 6, line 11) (see pages 3-4 of the answer).

The examiner concluded that it would have been obvious to have included the power management apparatus of Flannery in Herwig "so as to provide a superior solution to supplying the power needs of suspend/resume capabilities in a computer without the inefficiencies of a dual-stage power supply unit or the expense of incorporating both low-power and full-power units (See Flannery, col. 2, line 62 through col. 3, line 2) with the advantage of being able to supply 500mA to each downstream device (e.g., printers and speakers) attached to said bus hub (See Flannery, col. 4, lines 50-64)" (answer-page 4).

Appellants' response is to argue that the rejection is "improperly based on hindsight" and "has not provided clear and particular evidence of a suggestion or motivation to form the proposed combinations from the applied references" (principal brief-page 10).

In particular, appellants argue that Herwig relates to a wiring hub for a retail terminal and Flannery relates to a self-powered USB device (principal brief-page 12). They further argue that Flannery only shows electronics internal to a USB host and a USB remote hub, concluding that the skilled artisan "would not be motivated by Flannery to couple the power supply 112 to the USB hub interface 114 of Herwig because the power supply 112 is outside the USB system shown in Herwig" (principal brief-page 13).

We agree with the examiner that it would have been obvious, within the meaning of 35 U.S.C. § 103, to provide for the claimed connection of the power supply to the bus hub in Herwig.

Appellants state, at page 13, and reiterate on page 14, of the principal brief that in accordance with the USB Specification 1998, "a USB device either receives power from a host through the USB

cable, or has its own power supply." We agree with this observation and, applying it to the USB hub in Figure 3 of Herwig, we note that the USB hub must get its power supply from either the cable 94 or from some other power supply. Based on the teaching of Flannery, a USB hub may have its own internal power supply. One skilled in the art viewing Flannery's teaching of an internal power supply for the USB hub, together with Herwig's teaching in Figure 3 of a USB hub and a separate power supply within the same housing, would have quickly come to realize that the power supplied to the USB hub, rather than being internal to the hub, may also come from a power supply already in the same housing as the USB hub, and convenient thereto.

Knowing that the USB hub must be powered from some source, and having teachings indicating that a power source may be in the USB cable, internal to the USB hub, or within the same housing as the USB hub, the skilled artisan would have been led to simply connect the already existing power supply 112, in Herwig, to the USB hub 114 as an alternative to the internal power source suggested by Flannery. Since the power supply 112 is already in the same housing, the artisan would have recognized that if one needs to supply power to the USB hub and that that power supply may be

internal to the USB hub for self-powered USB devices (as taught by Flannery), such an "internal" power supply might as well be the power supply 112 internal to the housing and convenient to the USB hub in Herwig. Thus, the artisan would have been led from the teachings of the references to connect power supply 112, in Herwig, to the USB hub 114, in Herwig, to provide a self-powered alternative to a USB cable provided power supply.

Accordingly, we will sustain the rejection of claim 1 under 35 U.S.C. § 103. Moreover, since appellants do not argue claims 2-4, 7, 11, 12, 16, 17, 19, 28-32, 39, and 41-43 separately from claim 1, these claims will fall with claim 1 under 35 U.S.C. § 103.

Turning to claims 5, 20, 33, and 44, with claim 5 the representative claim in this group, the examiner adds USB Specification to the previously applied references for a teaching of the bus hub being bus powered.

Clearly, the bus hub 114 in Herwig is "bus-powered" because Herwig does not show any other power source for the bus hub 114 and, as appellants admit, USB Specification 1998 requires that a USB device either receives power from a host through the USB cable, or has its own power supply. Since Herwig's USB hub indicates no

internal power supply, the power must be provided by the USB cable. Hence, the bus hub in Herwig is bus powered, as claimed.

Appellants argue that the examiner has shown no evidence of the USB hub 114 in Herwig being bus powered and coupled to receive power from the power supply 112. We disagree. Clearly the USB hub 114 in Herwig is bus powered, as no other power source is depicted. Moreover, it would have been obvious to connect power supply 112 in Herwig to the USB hub 114 for the reasons explained supra. Accordingly, we agree with the examiner that it would have been obvious, within the meaning of 35 U.S.C. § 103, to power USB hub 114, alternatively, from both the USB cable and power supply 112.

Thus, we will sustain the rejection of claims 5, 20, 33, and 44 under 35 U.S.C. §103.

Turning, now to claims 6, 18, 34-36, and 45-47, the examiner added Urade to the Herwig/Flannery combination for a showing of the hub repeater connected to the upstream port.

Appellants do not dispute the examiner's reliance on Urade to show what the examiner alleges it shows, nor do appellants argue

the propriety of the combination of Urade with the other two references. Rather, appellants argue only that Urade "does not provide a motivation for modifying Herwig in view of Flannery" (principal brief-page 16).

Since we have explained, supra, that we view the combination of Herwig and Flannery to be proper, and appellants' argument anent claims 6, 18, 34-36, and 45-47 relies only on an allegation of an improper combination of Herwig and Flannery, as argued with regard to claim 1, we will sustain the rejection of claims 6, 18, 34-36, and 45-47 under 35 U.S.C. § 103.

With regard to claims 8 and 38, the examiner adds Kang and Tsai to the Herwig/Flannery combination, finding that it would have been obvious to combine Kang's teaching of a USB hub having a plurality of input power sources, including a device power wire, a device ground wire, and a plurality of signal wires to carry data signals, and Tsai's teaching of a cable comprising a device power wire, a device ground wire, a computer power wire, a computer ground wire, and a plurality of signal wires, with the Herwig/Flannery combination device.

Appellants argue that Kang is not combinable with Herwig because they relate to "two different, unrelated devices" (principal brief-page 17) and that Kang's self-described advantages are not applicable to Herwig. In fact, argue appellants, these two references teach away from each other "because the desirable flexibility allowing use of Kang with separate power supplies 'teaches away' from the apparatus in Herwig with its power supply and hub in the same enclosure" (principal brief-page 17).

Appellants' non-combinability argument based on unrelated devices in Herwig and Kang is not persuasive. Herwig teaches a USB cable but does not offer the specifics of the various wires within the cable. The examiner cited Kang and Tsai for teachings of USB cables having therein well known power wires, ground wires, computer power wires and a plurality of signal wires to carry data signals, in order to show what would normally be in such a USB cable as depicted generally in Herwig. The fact that certain devices in Herwig and Kang may or may not be related in some way does not detract from the teaching of certain wires found within USB cables and does not detract from the motivation for modifying Herwig to include such wires.

We note that appellants do not dispute the notoriety of placing in a USB cable the power wires, ground wires and signal wires set forth in the instant claims.

Thus, contrary to appellants' assertion, we find that the examiner has, indeed, provided "clear and particular evidence of record in support of this motivation to combine Herwig, Flannery, Kang, and Tsai."

Accordingly, we will sustain the rejection of claims 8 and 38 under 35 U.S.C. § 103.

With regard to claim 9, wherein the examiner added Decuir to the Herwig/Flannery/Kang/Tsai combination to show the notoriety of providing a plurality of signal wires as a "signal twisted pair," and to claim 10, wherein the examiner added Sanchez to the Herwig/Flannery/Kang/Tsai combination to show that a plurality of signal wires may comprise a fiber optic channel, appellants merely argue generally that the examiner has "not cited clear and particular evidence of record in support of a motivation to combine." We disagree.

In our view, the examiner has presented a reasonable, prima facie case of obviousness with regard to the subject matter of instant claims 9 and 10, and appellants have shown no error in the examiner's rationale for combining the references.

Accordingly, we will sustain the rejection of claims 9 and 10 under 35 U.S.C. § 103.

Similarly, with regard to the rejections of claims 13 and 40, 14, 15, 21-23, 26, 27, 37, and 38, appellants sole response is to merely allege, generally, that the examiner has "not cited clear and particular evidence of record in support of a motivation to combine." Such general allegations fail to point out any perceived errors in the examiner's rationale.


Since, in our view, the examiner has set forth reasoning which establishes a prima facie case of obviousness, within the meaning of 35 U.S.C. § 103, and appellants have not convincingly rebutted it, we will sustain the rejections of claims 13 and 40, 14, 15, 21-23, 26, 27, 37, and 38 under 35 U.S.C. § 103.


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The examiner's decision rejecting claims 1-23 and 26-48 under
35 U.S.C. § 103 is affirmed.

No time period for taking any subsequent action in connection
with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

AFFIRMED


ERROL A. KRASS)
Administrative Patent Judge)


JERRY SMITH)
Administrative Patent Judge)
BOARD OF PATENT)
APPEALS)
AND)
INTERFERENCES)


LEE E. BARRETT)
Administrative Patent Judge)

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